

APPLICATION NO 9/963485

October 14, 2004

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CLMPTO

1. (canceled)

2. (currently amended): The device according to claim ~~[[1]]~~ 20, wherein one of said first and second semiconductor substrates includes a light-emitting layer.

3-5. (canceled)

6. (currently amended): The device according to claim ~~[[1]]~~ 20, wherein said amorphous layer has a thickness of 1 nm or more.

CLAIMS 7-13 (CANCELLED)

14. (canceled)

15. (currently amended): The device according to claim [[14]] 16, wherein one of said first and second semiconductor substrates includes a light-emitting layer.

16. (currently amended): ~~The device according to claim 14;~~ A semiconductor device comprising:

a first and second semiconductor substrates, both being different in lattice constant and bonded with each other,

wherein an interface between said first and second semiconductor substitutes has a linear current-voltage characteristic, and an amorphous layer made of constituent atoms of said first and second semiconductor substitutes is formed at said interface,

wherein said first semiconductor substrate is an InP substrate including a compound semiconductor layer of zero layers or one or more layers and said second semiconductor substrate is a GaAs substrate including a compound semiconductor layer of zero layers or one or more layers.

17. (previously presented): The device according to claim 16, wherein said compound semiconductor layer of said first semiconductor substrate is made of In_1 .

$\text{xGa}_x\text{As}_y\text{P}_{1-y}$ (x and y are numbers from zero to one).

18. (previously presented): The device according to claim 16, wherein said compound semiconductor layer of said second semiconductor substrate is made of

$\text{Al}_x\text{Ga}_{1-x}\text{As}$ (x is a number from zero to one).

19. (currently amended): The device according to claim ~~[[14]]~~ 16, wherein said amorphous layer has a thickness of 1 nm or more.

20. (previously presented): A semiconductor device comprising:

a first and second semiconductor substrates, both being different in lattice constant and bonded with each other,

wherein said first semiconductor substrate is an InP substrate and said second semiconductor substrate is a GaAs substrate, and

wherein an interface between said first and second semiconductor substrates has a linear current-voltage characteristic, and an amorphous layer made of constituent atoms of said first and second semiconductor substrates is formed at said interface.